



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,146	07/26/2001	Richard A.A. Heylen	204	8208

31665 7590 04/10/2007  
PATENT DEPARTMENT  
MACROVISION CORPORATION  
2830 DE LA CRUZ BLVD.  
SANTA CLARA, CA 95050

EXAMINER
----------

PYZOCHA, MICHAEL J

ART UNIT	PAPER NUMBER
----------	--------------

2137

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/916,146	<b>Applicant(s)</b> HEYLEN, RICHARD A.A.	
	<b>Examiner</b> Michael Pyzocha	<b>Art Unit</b> 2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2,3,5-7,9,10,12,14-16,18,19,30 and 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,3,5-7,9,10,12,14-16,18,19,30 and 31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/19/07</u> . | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2137

**DETAILED ACTION**

1. Claims 2-3, 5-7, 9-10, 12, 14-16, 18-19, and 30-31 are pending.

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/19/2007 has been entered.

***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 12, 14-16, 18, 19, and 31 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The abovementioned claims relate to an optical disc carrying data with limitations defining how the data was created. These claims are therefore nonfunctional descriptive material because they relate to merely data on a

disc and there is no requisite functionality present to satisfy the practical application requirement. See MPEP 2106.01.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 5-7, 9, 12, 14-16, 18-19, and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan (US 5699434), in view of Maenza (US 6076165) and further in view of Menezes (Handbook of Applied Cryptography).

As per claims 30-31, Hogan discloses providing data patterns on the disc arranged such that the disc patterns cannot be accurately copied onto another disc by a writer for recordable discs which has a limited ability to look ahead during encoding, wherein the data patterns have a DSV (digital sum value) which has a rapid rate of change over time wherein the transition in the EFM (eight to fourteen modulation) signal from the data patterns are shifted from their ideal values or

Art Unit: 2137

the ability of disc drives to maintain optimal head positioning is compromised (Hogan: Col 3, lines 48-60; Col 5, line 64 to Col 6, line 41; Figs 3A,3B,3C,3D); the data patterns making up a signature (Hogan: Col 3, lines 48-60; Col 5, line 64 to Col 6, line 41; Figs 3A,3B,3C,3D); wherein the data patterns of the signature and other data are applied to the optical disc using a laser beam recorder controlled by an encoder which has a larger ability to look ahead than the writer and thus can be controlled to accurately write the signature to the disc (Hogan: Col 3, lines 48-60; Col 5, line 64 to Col 6, line 41; Figs 3A,3B,3C,3D).

Hogan fails to explicitly disclose an authentication signature technique used in a mastering process.

However, Maenza teaches employing authentication signature techniques in a mastering process (see Abstract). More specifically, Maenza teaches writing data patterns making up an authenticating signature to a disc in a mastering process, whereby the data patterns making up the authenticating signature cannot be accurately copied to another disc using standard equipment. In so doing, security of data in the mastering process is maintained.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of

Art Unit: 2137

Maenza with those of Hogan because doing so allows security of data in a mastering process.

The modified Hogan and Maenza system fails to disclose the use of an XOR function to scramble the patterns that make up the authentication signature.

However, Menezes teaches the use of scrambled data patterns to make an authentication signature (see pages 22-23) and teaches the use of the XOR function to scramble data (see page 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Menezes with those of Hogan and Maenza because doing so allows for non-repudiation of data and to protect data quickly.

As per claim 3, the modified Hogan, Maenza, and Menezes system discloses successful operation of the copy protected disc requires that the disc be present in the drive and that a correct authenticating signature be readable therefrom (Hogan: Fig 1; Col 4, lines 18-21).

As per claims 5 and 14, the modified Hogan, Maenza, and Menezes system discloses the provided data patterns additionally to the rapid rate of change ensure that the DSV has an absolute value significantly greater than usual (Hogan: Col 3, lines 43-47).

Art Unit: 2137

As per claims 6 and 15, the modified Hogan, Maenza, and Menezes system the provided data patterns are repeated patterns of values (Hogan: Fig 3A, 3B, Col 3, lines 48-59).

As per claims 7 and 16, the modified Hogan, Maenza, and Menezes system discloses the size of the provided data patterns is predetermined (Hogan: Col 6, lines 42-49).

As per claims 9 and 18, the modified Hogan, Maenza, and Menezes system discloses the provided data patterns arranged to produce a DSV which has a substantial low frequency component lower than that of the lowest signal frequency that does not cause DSV problems (Hogan: Col 5, lines 51-63; Fig 3B).

As per claim 12, the modified Hogan, Maenza, and Menezes system discloses the provided data patterns have a size and/or nature which ensures that they cannot be accurately written by a writer of recordable discs (Hogan: Col 3, lines 48-59; Col 1, lines 19-23).

As per claim 19, the modified Hogan, Maenza, and Menezes system discloses the data patterns are put in a plurality of sectors on the optical disc (Hogan: Col 3, lines 48-60; Col 5, line 64 to Col 6, line 41).

7. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan in view Maenza of Newman, U.S. Patent No. 6,353,890.

Art Unit: 2137

As per claim 2, the modified Hogan, Maenza, and Menezes system fails to identify the use of corrupt or incorrect data on a particular sector to signify that the disc is not original. The errors in Hogan's system only serve to create a large DSV which inhibits copying of the disc.

However, Newman discloses the existence of corrupted or otherwise incorrect data in a particular sector on the optical disc signifies that that disc is not original whereby its use may be prevented (Newman: Col 10, lines 14-21). The errors in Newman's system serve to signify that the disc is or is not original. If the disc is not original, its use is not permitted.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Newman with those of Hogan in view of Maenza and allow for the data patterns to authenticate whether use of a disc is or is not permitted because doing this adds an additional security feature in the system.

As per claim 10, the modified Hogan, Maenza, Menezes and Newman system discloses the authenticating signature is also made up of sectors containing only zeros which are provided both before and after sectors containing the chosen data patterns (Newman: Col 3, lines 15-20; Col 3, lines 60-65);



Art Unit: 2137

The modified Hogan, Maenza, and Menezes system describes all the limitations of claim 30.

However, the modified Hogan, Maenza, and Menezes system appears to fail to describe the use of padding sectors with zeros before and after sectors containing chosen data patterns.

Newman discloses that an error free sector (containing only zeros) may adjoin a sector of error data patterns for ease in processing.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Newman with those of Hogan in view of Maenza and add sectors containing only zeros before and after the sectors containing data patterns because doing so makes it easier for reading devices to process information.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 2-3, 5-7, 9-10, 12, 14-16, 18-19, and 30-31 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael

Art Unit: 2137

Pyzocha whose telephone number is (571) 272-3875. The examiner can normally be reached on 7:00am - 4:30pm first Fridays of the bi-week off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJP

  
EMMANUEL L. MOISE  
SUPERVISORY PATENT EXAMINER